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(54) **DATA-BASED SIGNAL DEFINITION FOR FREQUENCY DOMAIN ADAPTIVE BEAMFORMING ALGORITHMS**

(75) Inventors: **Russell A. Christman**, Old Lyme, CT (US); **Mohamed H. Ahmed**, Wakefield, RI (US)

(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

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Primary Examiner—Ian J. Lobo
(74) *Attorney, Agent, or Firm*—James M. Kasischke; Michael F. Oglo; Jean-Paul A. Nasser

(57) **ABSTRACT**

A data-based technique is disclosed that defines the amplitude and phase of acoustic signals for detection as they propagate across an array of sensor elements for each array incident angle of interest. The definitions of the acoustic signals are then used to constrain adaptive noise suppression operating routines from canceling desired acoustic representative of desired incident direction detector. The data-based technique of defining acoustic signals also leads to a greater reduction of noise in directions where signal is not present. The use of this technique within an adaptive-array-beamforming-processor, and more particularly in connection with the provision of data-based steering vectors therefor, results in an improvement in the ability to detect acoustic signals imbedded in noise.

9 Claims, 3 Drawing Sheets